# REMARKS

Regarding the objection to the use of "abovementioned" in the specification, the applicants submit that no correction is necessary. The applicants submit that "abovementioned" is a term like "herein" or "therein," which can be found in various legal documents.

Claims 6-10, 14 and 16-18 are regarded as allowable if properly rewritten. Claims 11-13 and 15 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Roman (U.S. Publication Number 2003/0152136), claims 1-4 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Roman in view of Matsumoto (U.S. Patent Number 6,704,552), and claim 5 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Roman and Matsumoto in view of Popovic (U.S. Patent Number 6,804,307). Respectfully disagreeing with these rejections, reconsideration is requested by the applicants.

Independent claim 1 recites (emphasis added) "assigning a first communication unit a first pilot sequence, wherein the first **pilot sequence** is selected from a group of pilot sequences **constructed from a set of Generalized Chirp-Like (GCL) sequences.**" Independent claim 11 recites (emphasis added) "receiving a pilot sequence as part of an over-the air transmission, wherein the **pilot sequence is constructed from a set of Generalized Chirp-Like (GCL) sequences.**" Independent claim 15 recites (emphasis added) "pilot channel circuitry for transmitting or receiving a pilot channel sequence, wherein the **pilot channel sequence** comprises a sequence unique to the communication unit and is **constructed from a GCL sequence.**" Regarding all of these claims, the Examiner cites Roman [0041-0042 and 0053] as teaching pilot sequences constructed from GCL sequences. Roman [0041-0042, 0051 and 0053] reads as follows (emphasis added):

> [0041] To solve the LO frequency drift problem, especially in situations where the transmitting LO is not particularly stable, the receiver uses a **two-chirp differential calculation** to resolve the frequency drift uncertainty. This is accomplished by configuring the transmitter to send a combination of conventional **up-chirping pulses**

6

and down-chirping pulses.

[0042] Each chirp produces a pulse at the output of the receiver's matched filter, separated in time by T o+D, where To is the known spacing between the up-chirp and down-chirp signal, and delta-f is proportional to D. Thus, using the two types of chirp waveforms as a "pilot signal," the receiver can determine delta-f directly and thus synchronize the local LO to the transmitter LO, using conventional tuning devices or processes. Once synchronized, the receiving device can use the delta-f information to properly modulate its own data transmissions, allowing rapid sync at the other end....

[0051] As shown in FIG. 3, Code 1 modulates consecutive chips 310. It changes from chip to chip and repeats the same sequence of N values. Code 2 is a DTPC polyphase code and it modulates consecutive Code 1 codewords 320. Code 2has a periodicity of N chips, and in an exemplary embodiment it can be a P4 code such as those described in [9] , [10], or [11] ....

[0053] The detector 400 is composed of two matched filters. The internal one (close to the RF/analog) is matched to Code 1, and may be of a QPSK direct sequence type as (in the general sense) the direct sequence phase can take any of the values of 0, 90, 180, or 270 degrees. The Code 2 filter 410 performs the chirp-like or polyphase matched filtering over the whole sequence length of (N·M)/R seconds. Both matched filters run at the sampled rate of R, but Code 2 has an equivalent chip rate of R/N, therefore the taps from the shift register come every N positions.

Thus, the applicants submit that Roman, as cited in the present office action, does not teach or suggest **pilot sequences** constructed from **GCL sequences**, as recited in the claims. Instead, Roman describes a pilot signal using two types of chirp waveforms (up-chirp and down-chirp waveforms). See Roman [0042]. The Examiner also appears to be referring to the Code 2 filter of Roman in [0053]. However, the applicants do not see how a filter that "performs the chirp-like or polyphase matched filtering over the whole sequence length" teaches or suggests constructing **pilot sequences** from **GCL** sequences. The applicants note that Code 2 is described as a DTPC polyphase code in [0051]. DTPC stands for Doppler Tolerant Polyphase Code according to the abstract of Roman.
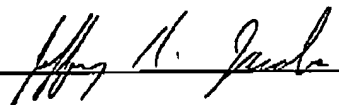
Furthermore, the applicants do not see where Roman describes the use of Generalized Chirp-Like (GCL) sequences, and request that the Examiner explain in greater detail how Roman is asserted to teach or suggest constructing pilot sequences from GCL sequences. The applicants note that Popovic appears to provide some background information regarding GCL sequences generally, beginning at Popovic

7

column 5, line 28 and continuing for a number of paragraphs. The applicants contrast this discussion in Popovic, regarding GCL sequences, to the cited portions of Roman.

Since none of the references cited, either independently or in combination, teach all of the limitations of independent claims 1, 11 or 15, or therefore, all the limitations of their respective dependent claims, it is asserted that neither anticipation nor a prima facie case for obviousness has been shown. No remaining grounds for rejection or objection being given, the claims in their present form are asserted to be patentable over the prior art of record and in condition for allowance. Therefore, allowance and issuance of this case is earnestly solicited.

The Examiner is invited to contact the undersigned, if such communication would advance the prosecution of the present application. Lastly, please charge any additional fees (including extension of time fees) or credit overpayment to Deposit Account No. 502117 – Motorola, Inc.

Respectfully submitted,
X. Zhuang et al.

By:_____

Jeffrey K. Jacobs
Attorney for Applicant(s)
Registration No. 44,798
Phone No.: 847/576-5562
Fax No.: 847/576-3750

8